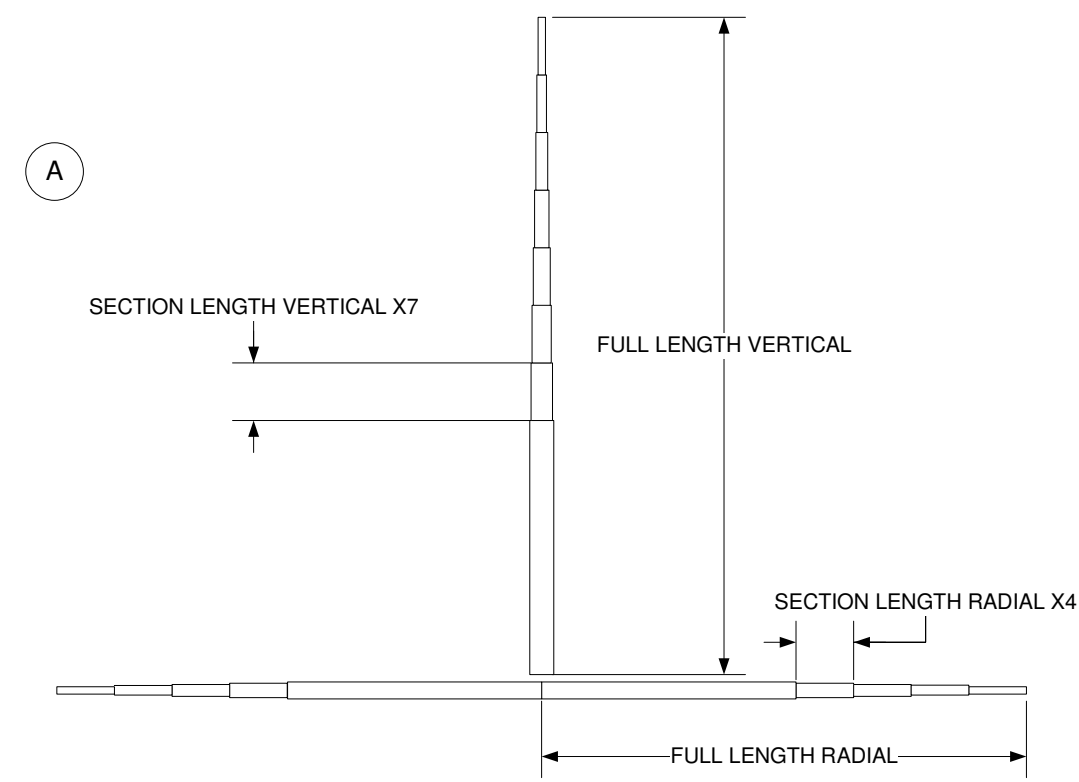


NOTES:

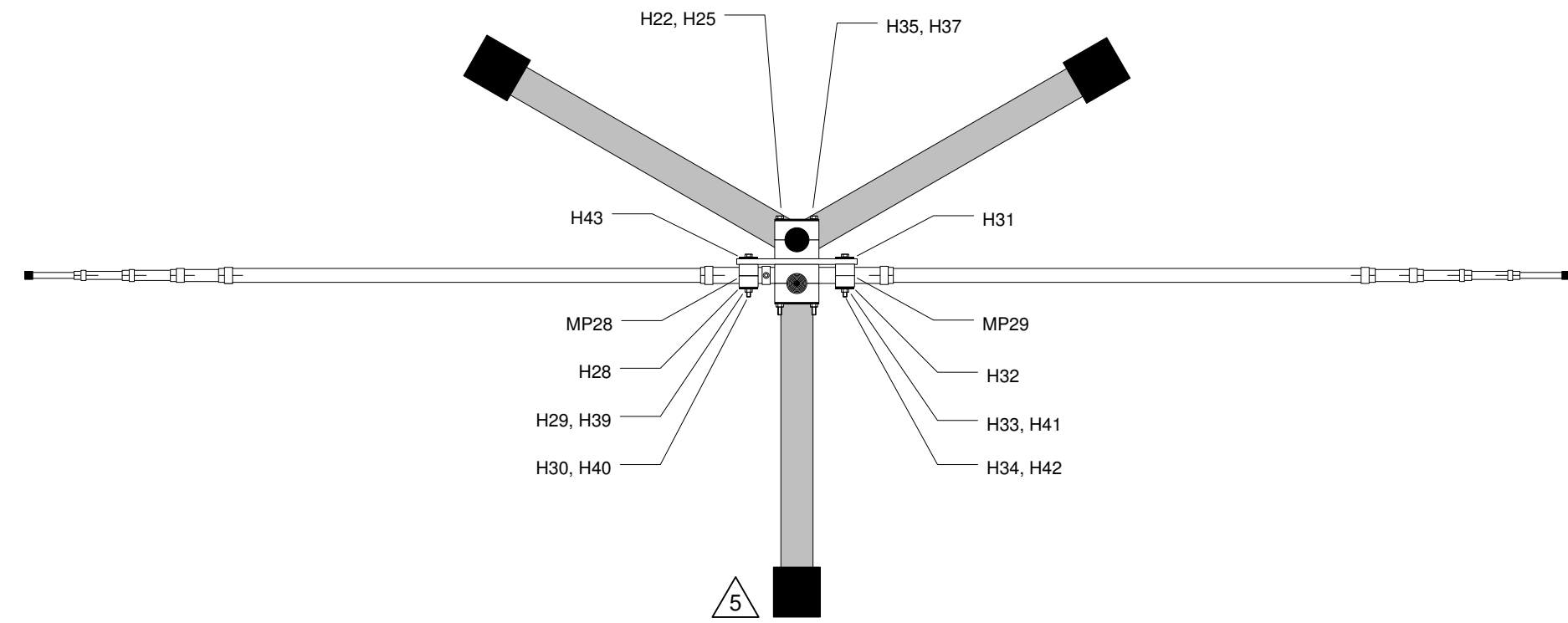
- 1 - INFORMATION ON THIS ANTENNA DESIGN AVAILABLE AT [HTTP://WWW.HAMRADIO.ME/](http://www.hamradio.me/).
- 2 - DE-BURR ALL TUBE ENDS BEFORE ASSEMBLY.
- 3 - ANTENNA HUB PLATE, MP8, DOES NOT BEAR THE WEIGHT OF THE VERTICAL ELEMENT AS THE FORCES TRANSMIT DIRECTLY TO TRIPOD MAST.
- 4 - ATTACH FEEDLINE TO #10 STUDS OF H6 AND H7. THIS ANTENNA DESIGN REQUIRES A VERY GOOD CHOKE BALUN. CONSULT "A HAM'S GUIDE TO RFI, FERRITES, BALUNS, AND AUDIO INTERFACING" BY JIM BROWN (K9YC) FOR GUIDANCE. IF THIS ANTENNA ASSEMBLY IS THE PARASITIC COMPONENT OF A YAGI-UDA ARRANGEMENT, ATTACH A SHORTING WIRE BETWEEN H6 AND H7 AND ADJUST ELEMENT LENGTHS PER THE YAGI-UDA DESIGN DIMENSIONS.
- 5 - TRIPOD, MP30, IS A COMMERCIAL SPEAKER STAND AVAILABLE FROM YOUR LOCAL MUSIC GEAR SUPPLIER. COMMERCIAL SPEAKERS HAVE EITHER 1-3/8 OR 1-1/2 INCH DIAMETER SOCKETS. DX ENGINEERING'S RESIN SUPPORT BLOCKS ACCOMMODATE THE 1-1/2 INCH DIAMETER. THUS, THIS ANTENNA ASSEMBLY EXPECTS THE SPEAKER STAND TO HAVE A 1-1/2 INCH DIAMETER MAST. MY PERSONAL STAND HAS A MAST THAT TAPERS TO 1-3/8 INCH ON ONE END, BUT, BY FLIPPING IT OVER, PROVIDES 1-1/2 INCH MAST ALONG THE ENTIRE INTERFACE TO PLATE MP8. THERE ARE HUNDREDS OF SPEAKER STAND MODELS AVAILABLE. TAKE THE TIME TO FIND THE MODEL THAT PROVIDES ABOUT 12 INCHES OF 1-1/2 INCH MAST TO MATE WITH THE PLATE ASSEMBLY.
- 6 - THE MIDDLE RADIAL SUPPORT TUBE, MP7, IS ONE FOOT LONG. THIS PROTRUDES BEYOND THE SUPPORT PLATE FAR ENOUGH TO PROPERLY GRIP AND SUPPORT THE NEXT RADIAL TUBES, MP6 AND MP18, YET REMAIN SHORT ENOUGH TO ACCOMMODATE STOWAGE AND TRANSPORT. A 3 FOOT TUBE WILL WORK JUST AS WELL AS MP7 IF YOU DO NOT WANT TO SHORTEN A STOCK TUBE. THIS RESULTS IN A MORE AWKWARD PLATE ASSEMBLY UNLESS YOU REMOVE MP7 FROM THE PLATE DURING TRANSPORT.
- 7 - ALWAYS INSTALL RADIAL TUBES, MP6 AND MP18, SIX INCHES INTO MIDDLE RADIAL TUBE, MP7, SO THEY MEET IN THE CENTERLINE OF THE ANTENNA. NEVER EXTEND MP6 AND MP18 FROM THIS POSITION.
- 8 - EXAMPLE DIMENSIONS APPLY TO MEASUREMENTS TAKEN WITH THE ANTENNA RADIALS ABOUT 3.5 FEET ABOVE TYPICAL VIRGINIA SOIL. OTHER ENVIRONMENTS MAY DIFFER, BUT THESE MEASUREMENTS WILL BE CLOSE.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
-	-	INITIAL REVISION	2013-07-18	J. S. HUGGINS
A4, G2	A	GRAPHIC FIX, DIMENSION CHART CLARITY IMPROVEMENT	2013-07-21	J. S. HUGGINS
B5, E2	B	FIXED ANNOTATION PLACEMENT, FIXED BOM ITEM 25 REFERENCE	2013-07-27	J. S. HUGGINS
E2	C	MP7 & MP8 NOW DX ENGINEERING PARTS, ADDED STAND MAKE/MODEL	2013-08-01	J. S. HUGGINS

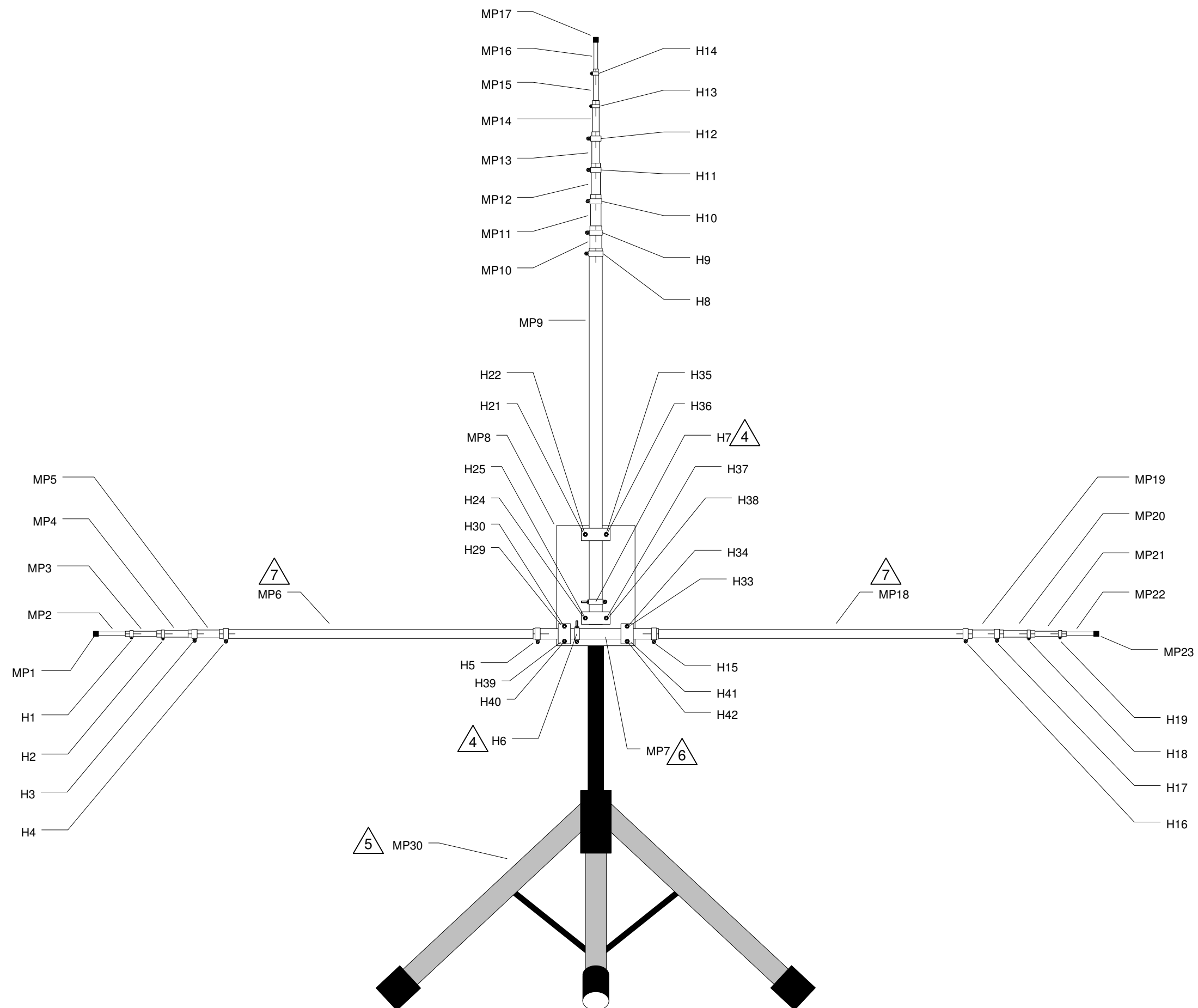
BAND	MEASURED AND TESTED DIMENSIONS				VERTICAL RADIAL LENGTH RATIO
	SECTION LENGTH		FULL LENGTH		
	VERTICAL	RADIAL	VERTICAL	RADIAL	
10M	12.0 IN.	10.4 IN.	120.0 IN.	77.6 IN.	1.55
12M	14.3 IN.	14.0 IN.	136.1 IN.	92.0 IN.	1.48
15M	17.5 IN.	18.0 IN.	158.5 IN.	108.0 IN.	1.47
17M	21 IN.	23 IN.	183 IN.	128 IN.	1.43
20M	29 IN.	30 IN.	239 IN.	156 IN.	1.53



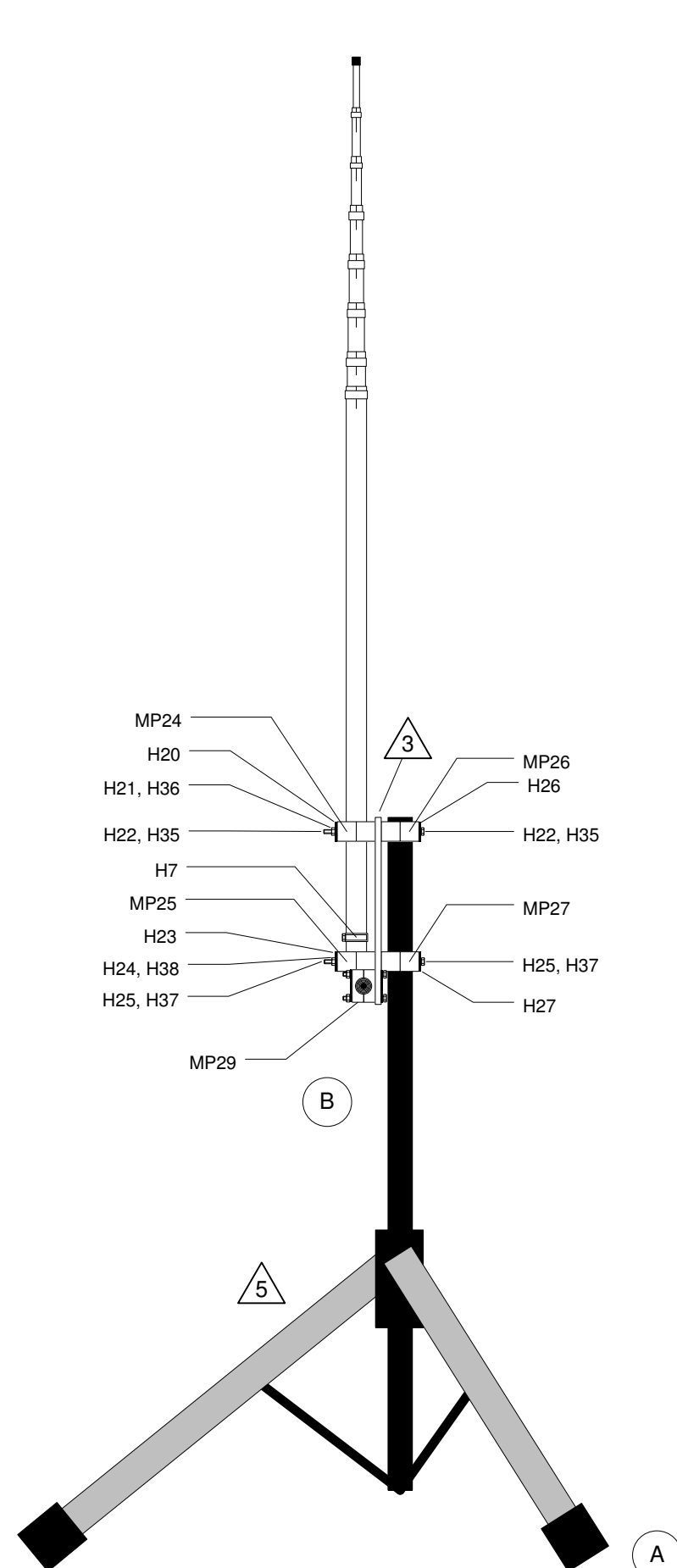
TOP VIEW



FRONT VIEW



SIDE VIEW



B C

PARTS LIST						
ITEM	QTY	REFERENCE	MAKE	MODEL	DESCRIPTION	
1	1	H6	DX ENGINEERING	DXE-ECLS-100	CLAMP, SS, #10-24 STUD, 1/2 IN. WIDTH, 1.000 IN. OD	
2	1	H7	DX ENGINEERING	DXE-ECLS-125	CLAMP, SS, #10-24 STUD, 1/2 IN. WIDTH, 1.125 TO 1.250 IN. OD	
3	3	H1, H14, H19	DX ENGINEERING	DXE-ECL-020	CLAMP, SS, 5/16 IN. WIDTH, 0.375 TO 0.500 IN. OD	
4	3	H2, H13, H18	DX ENGINEERING	DXE-ECL-040	CLAMP, SS, 5/16 IN. WIDTH, 0.625 IN. OD	
5	6	H3, H4, H11, H12, H17, H18	DX ENGINEERING	DXE-ECL-060	CLAMP, SS, 5/16 IN. WIDTH, 0.750 TO 0.875 IN. OD	
6	3	H5, H10, H15	DX ENGINEERING	DXE-ECL-10SS	CLAMP, SS, 9/16 IN. WIDTH, 1.000 IN. OD	
7	2	H8, H9	DX ENGINEERING	DXE-ECL-12SS	CLAMP, SS, 9/16 IN. WIDTH, 1.125 TO 1.250 IN. OD	
8	3	MP1, MP17, MP23	DX ENGINEERING	DXE-VC-0375	END CAP, VINYL, BLACK, UV RESISTANT, 0.5 IN. L, FITS 0.375 IN. O.D	
9	4	H30, H34, H40, H42	LOCAL SOURCE	BEST	HARDWARE, BOLTS, 1/4-20, 2.5 INCH LENGTH	
10	4	H22, H25, H35, H37	LOCAL SOURCE	BEST	HARDWARE, BOLTS, 1/4-20, 6.0 INCH LENGTH	
11	8	H21, H24, H29, H33, H36, H38, H39, H41	LOCAL SOURCE	BEST	HARDWARE, NUTS, 1/4-20	
12	4	H28, H31, H32, H43	DX ENGINEERING	DXE-RSB-DP-3	MOUNT, RESIN SUPPORT BLOCK REINFORCEMENT PLATE, 0.75 AND 1.00 IN.	
13	4	H20, H23, H26, H27	DX ENGINEERING	DXE-RSB-DP-5	MOUNT, RESIN SUPPORT BLOCK REINFORCEMENT PLATE, 1.25 AND 1.50 IN.	
14	2	MP28, MP29	DX ENGINEERING	DXE-RSB-I10000	MOUNT, RESIN SUPPORT BLOCK, 1.000 IN.	
15	2	MP24, MP25	DX ENGINEERING	DXE-RSB-I12500	MOUNT, RESIN SUPPORT BLOCK, 1.250 IN.	
16	2	MP26, MP27	DX ENGINEERING	DXE-RSB-I15000	MOUNT, RESIN SUPPORT BLOCK, 1.500 IN.	
17	1	MP8	DX ENGINEERING	DXE-MMP-KX40	PLATE, VERTICAL DIPOLE ANTENNA SUPPORT PLATE PER KX40-000050	
18	3	MP2, MP16, MP22	DX ENGINEERING	DXE-AT1240	TUBE, ALUMINUM, 0.375 IN. DIA., 0.058 IN. WALL, NO SLIT, 3 FT.	
19	3	MP3, MP15, MP21	DX ENGINEERING	DXE-AT1241	TUBE, ALUMINUM, 0.500 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	
20	3	MP4, MP14, MP20	DX ENGINEERING	DXE-AT1242	TUBE, ALUMINUM, 0.625 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	
21	3	MP5, MP13, MP19	DX ENGINEERING	DXE-AT1243	TUBE, ALUMINUM, 0.750 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	
22	3	MP6, MP12, MP18	DX ENGINEERING	DXE-AT1244	TUBE, ALUMINUM, 0.875 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	
23	1	MP7	DX ENGINEERING	DXE-AT-KX40	TUBE, ALUMINUM, 1.000 IN. DIA., 0.058 IN. WALL, SLIT BOTH ENDS, 1 FT.	
24	1	MP11	DX ENGINEERING	DXE-AT1245	TUBE, ALUMINUM, 1.000 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	
25	1	MP10	DX ENGINEERING	DXE-AT1246	TUBE, ALUMINUM, 1.125 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	
26	1	MP9	DX ENGINEERING	DXE-AT1247	TUBE, ALUMINUM, 1.250 IN. DIA., 0.058 IN. WALL, SLIT END, 3 FT.	
27	1	MP30	ON-STAGE	SS7761B	STAND, SPEAKER, ALUMINUM, 1.5" REVERSIBLE UPPER SHAFT, SAFETY PIN	

DRAWING COPYRIGHT 2013
JOHN S. HUGGINS
ALL RIGHTS RESERVED

NO CLAIM IS MADE ON
ANTENNA DESIGN
AS IT IS BASED ON IDEAS
IN THE PUBLIC DOMAIN

JOHN S. HUGGINS

FREE STANDING VERTICAL
ASYMMETRICAL HATTED DIPOLE ANTENNA

SIZE D	ENTRY KX40	DWG NO P000049	SHEET 1 OF 1
SCALE 1 : 10			